

US009993272B2

(12) United States Patent Gordon et al.

(54) PEDIATRIC INTRAMEDULLARY NAIL

(71) Applicant: Orthopediatrics Corp., Warsaw, IN (US)

(72) Inventors: **J. Eric Gordon**, St. Louis, MO (US); **Mark D. Landes**, Salem, NH (US);

David W. Daniels, Winona Lake, IN (US); Scott C. Brown, Warsaw, IN

(US)

(73) Assignee: Orthopediatrics Corporation, Warsaw,

IN (US)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35 U.S.C. 154(b) by 653 days.

(21) Appl. No.: 14/033,978

(22) Filed: Sep. 23, 2013

(65) Prior Publication Data

US 2014/0018805 A1 Jan. 16, 2014

Related U.S. Application Data

- (63) Continuation of application No. 12/777,369, filed on May 11, 2010, now Pat. No. 8,540,714.
- (51) Int. Cl.

 A61B 17/58 (2006.01)

 A61B 17/72 (2006.01)

 A61B 17/17 (2006.01)
- (52) **U.S. Cl.**

CPC A61B 17/72 (2013.01); A61B 17/1725 (2013.01); A61B 17/7233 (2013.01)

(58) Field of Classification Search

CPC . A61B 17/72; A61B 17/7208; A61B 17/7216; A61B 17/7225; A61B 17/7233; A61B 17/7241; A61B 17/725; A61B 17/7283; A61B 17/7291; A61B 17/744; A61B 17/748; A61B 17/842;

(Continued)

(10) Patent No.: US 9,993,272 B2

(45) **Date of Patent:** Jun. 12, 2018

(56) References Cited

U.S. PATENT DOCUMENTS

4,135,507 A 1/1979 Harris 4,169,470 A 10/1979 Ender et al.

4,622,959 A * 11/1986 Marcus A61B 17/1721

60

(Continued)

FOREIGN PATENT DOCUMENTS

DE 1593440 7/1981 DE 2209947 6/1989 (Continued)

OTHER PUBLICATIONS

PCT Search Report of PCT/US2011/035134 dated Sep. 12, 2011, 7pgs.

(Continued)

Primary Examiner — Lynnsy Summitt (74) Attorney, Agent, or Firm — Woodard, Emhardt, Moriarty, McNett & Henry LLP

(57) ABSTRACT

Among other things, there are disclosed embodiments of an intramedullary nail system for use in pediatric cases, including an intramedullary nail and a targeting assembly. Embodiments of the nail may be one-piece and include a proximal portion, a medial portion and a distal portion. The junction of the medial portion and distal portion is a bend that provides a small angle between the medial portion and the distal portion as viewed when the nail is substantially in a medial-lateral plane. The targeting assembly attaches to the proximal portion of the nail securely and enables easy insertion of fixing screws.

20 Claims, 6 Drawing Sheets

